REMARKS

INTRODUCTION:

In accordance with the foregoing, claim 2 has been canceled without prejudice or disclaimer, and claims 1, 20, 21, 22, 23, and 24 have been amended. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1 and 3-24 are pending and under consideration. Reconsideration is respectfully requested.

OBJECTION TO THE CLAIMS:

In the Office Action, at page 2, numbered paragraph 4, claims 23 and 24 were objected to for informalities.

Claims 23 and 24 have been amended in accordance with the Examiner's suggestions. In view of the proposed amended claims 23 and 24 set forth above, in accordance with the suggestions of the Examiner, the outstanding objections to the claims should be resolved.

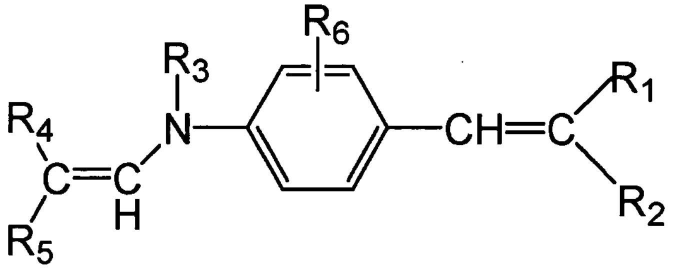
REJECTION UNDER 35 U.S.C. §102:

In the Office Action, at pages 3-4, numbered paragraph 8, claims 1, 5 and 21 were rejected under 35 U.S.C. §102(b) as being anticipated by Fuse et al. (USPN 5,045,421; hereafter, Fuse). This rejection is traversed and reconsideration is requested.

Independent claims 1 and 21 have been amended to include the features of claim 2. Claim 2 has been cancelled without prejudice or disclaimer.

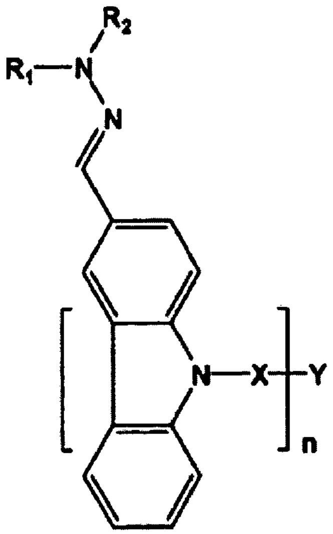
It is respectfully submitted that Fuse does not recite a double-layered positively-charged organic photoreceptor comprising: an electroconductive support; a charge transport layer formed on the electroconductive support, comprising: a first charge transport compound that is soluble in an acetate solvent; a second charge transport compound that is insoluble in an acetate solvent; and a binder resin; and a charge generating layer formed on the charge transport layer, wherein the first charge transport compound is at least one selected from charge transport compounds of formula (1) below:

formula (1):



where R1 and R2 are independently selected from the group consisting of a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted aryl group, and a substituted or unsubstituted styryl, in which at least one of R1 and R2 is a substituted or unsubstituted aryl group or a substituted or unsubstituted styryl; R3 is selected from the group consisting of a substituted or unsubstituted alkyl group, a substituted or unsubstituted aralkyl, and a substituted or unsubstituted aryl group; R4 and R5 are independently selected from the group consisting of a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted benzyl group, and a substituted or unsubstituted phenyl group; and R6 is selected from the group consisting of a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted alkoxy group, and a halogen atom, as is recited by amended claim 1 of the present invention.

In addition, although the Examiner points out that the present invention utilizes a hydrazone compound, it should be noted that, as recited by paragraph [0022] of the specification, the hydrazone compound utilized by the present invention is a hydrazone compound of formula (2), show below:



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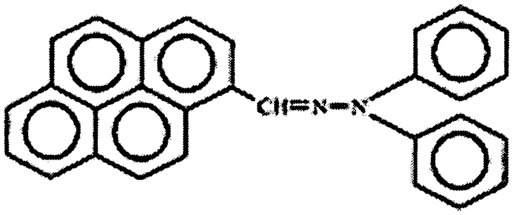
where n is an integer from 2 to 6; R1 and R2 are independently selected from among an alkyl group, a cycloalkyl group, and an aryl group and optionally combine with the nitrogen atom to form a ring; Y is selected from among a bond, a carbon atom, a –CR3 group where R3 is a hydrogen atom, an alkyl group, or an aryl group, an aryl group, a cycloalkyl group, and a cyclosiloxyl group; X is a linking group of the formula of –(CH2)m–,where m is an integer from 4 to 10, and at least one methylene group is optionally substituted with an oxygen atom, a carbonyl group, or an ester group.

In contrast, the hydrazone compound of Fuse cited by the Examiner (column 8, line 66-column 9, line 15) is



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which is clearly different from the hydrazone of formula (2) of the present invention.

It is known that organic compounds are compounds in which elements mainly attached to carbon structures combine, and due to various combinations, a large number of compounds having various characteristics are formed. Even if two compounds differ only by one carbon, the characteristics may be very different. As for isomers, even though the molecular formula is the same, the characteristics of the isomers may be different.

Thus, it is respectfully submitted that the hydrazone compound of Fuse does not anticipate the hydrazone compound of formula (2) of the present invention.

Thus, it is respectfully submitted that amended independent claims 1 and 21 are not anticipated under 35 U.S.C. §102(b) by Fuse et al. (USPN 5,045,421). Since claim 5 depends from amended claim 1, it is submitted that claim 5 is not anticipated under 35 U.S.C. §102(b) by Fuse et al. (USPN 5,045,421) for at least the reasons that amended claim 1 is not anticipated under 35 U.S.C. §102(b) by Fuse et al. (USPN 5,045,421).

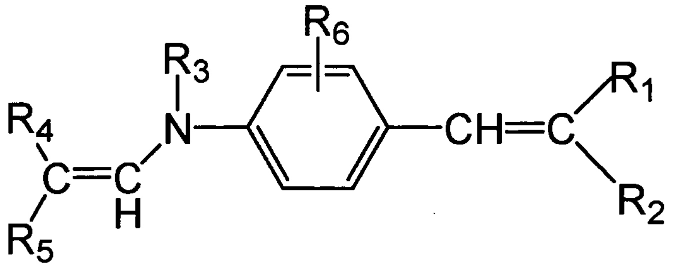
REJECTION UNDER 35 U.S.C. §103:

A. In the Office Action, at pages 4-5, numbered paragraph 8, claims 1, 4, 5, and 21 were rejected under 35 U.S.C. §103(a) as being unpatentable over Fuse et al. (USPN 5,045,421; hereafter, Fuse). The reasons for the rejection are set forth in the Office Action and therefore not repeated. The rejection is traversed and reconsideration is requested.

Independent claims 1 and 21 have been amended to include the features of claim 2. Claim 2 has been cancelled without prejudice or disclaimer.

As noted above, it is respectfully submitted that Fuse does not recite a double-layered positively-charged organic photoreceptor comprising: an electroconductive support; a charge transport layer formed on the electroconductive support, comprising: a first charge transport compound that is soluble in an acetate solvent; a second charge transport compound that is insoluble in an acetate solvent; and a binder resin; and a charge generating layer formed on the charge transport layer, wherein the first charge transport compound is at least one selected from charge transport compounds of formula (1) below:

formula (1):



where R1 and R2 are independently selected from the group consisting of a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted aryl group, and a substituted or unsubstituted styryl, in which at least one of R1 and R2 is a substituted or unsubstituted aryl group or a substituted or unsubstituted styryl; R3 is selected from the group consisting of a substituted or unsubstituted alkyl group, a substituted or unsubstituted aralkyl, and a substituted or unsubstituted aryl group; R4 and R5 are independently selected from the group consisting of a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted benzyl group, and a substituted or unsubstituted phenyl group; and R6 is selected from the group consisting of a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted alkoxy group, and a halogen atom, as is recited by amended claim 1 of the present invention.

Fuse recites a plurality of aromatic carboxylic acid examples in cols. 4-5. However, none of the examples have a nitrogen configured therein in the fashion shown in formula (1) of amended claims 1 and 21. Since different organic compounds may have different characteristics (see above), it is respectfully submitted that Fuse does not recite the structures of amended claims 1 and 21.

Hence, it is submitted that amended claims 1 and 21 are patentable under 35 U.S.C. §103(a) over Fuse et al. (USPN 5,045,421). Since claims 4 and 5 depend from amended claim 1, claims 4 and 5 are submitted to be patentable under 35 U.S.C. §103(a) over Fuse et al. (USPN 5,045,421) for at least the reasons that amended claim 1 is submitted to be patentable under 35 U.S.C. §103(a) over Fuse et al. (USPN 5,045,421).

B. In the Office Action, at page 5, numbered paragraph 9, claims 2 and 23 were rejected under 35 U.S.C. §103(a) as being unpatentable over Fuse et al. (USPN 5,045,421; hereafter, Fuse) in view of Itoh et al. (USPN 5,013,623; hereafter, Itoh). The reasons for the rejection are set forth in the Office Action and therefore not repeated. The rejection is traversed and reconsideration is requested.

Claim 2 has been cancelled. Thus, the rejection of claim 2 under 35 U.S.C. §103(a) in view of Fuse et al. (USPN 5,045,421 and further in view of Itoh et al. (USPN 5,013,623) is now moot.

It is respectfully submitted that Fuse requires 3 components in the charge transport layer, as noted in col. 3, lines 36-52:

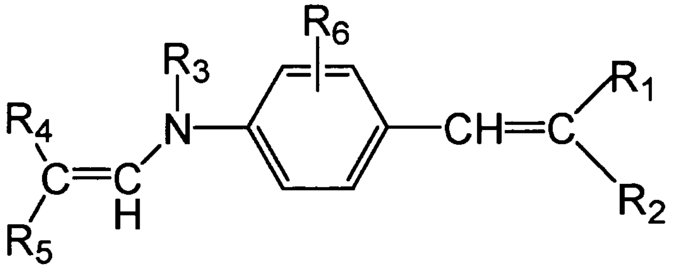
> The charge transport layer contains the specific compound, a charge transport material and a binder resin. The compound used in the charge transport layer is the metal complex or salt of the aromatic carboxylic acid represented by the general formula (I):
>
> ArCOOH (I)
>
> wherein Ar is the residue of the aromatic homocyclic (or carbon cyclic) compound such

> as benzene, naphthalene or anthracene or the residue of the aromatic heterocyclic compound such as carbazole. Ar has optionally one or more substituents such as alkyl, aryl, hydroxy, alkoxy, aryloxy, alkylcarbonyl, arylcarbonyl, alkoxycarbonyl, aryloxycarbonyl, carboxyl, nitro, cyano, halogen, among which hydroxy is preferable. (emphasis added)

Hence, Fuse requires a metal complex or salt of the aromatic carboxylic acid represented by the general formula (I): ArCOOH (I), which is not required by the present claimed invention.

Itoh does not recite a double-layered positively-charged organic photoreceptor comprising: an electroconductive support; a charge transport layer formed on the electroconductive support, comprising: a first charge transport compound that is soluble in an acetate solvent; a second charge transport compound that is insoluble in an acetate solvent; and a binder resin; and a charge generating layer formed on the charge transport layer, wherein the first charge transport compound is at least one selected from charge transport compounds of formula (1) below:

formula (1):



where R1 and R2 are independently selected from the group consisting of a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted aryl group, and a substituted or unsubstituted styryl, in which at least one of R1 and R2 is a substituted or unsubstituted aryl group or a substituted or unsubstituted styryl; R3 is selected from the group consisting of a substituted or unsubstituted alkyl group, a substituted or unsubstituted aralkyl, and a substituted or unsubstituted aryl group; R4 and R5 are independently selected from the group consisting of a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted benzyl group, and a substituted or unsubstituted phenyl group; and R6 is selected from the group consisting of a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted alkoxy group, and a halogen atom, which is recited by amended claim 23 of the present invention.

Even if Itoh were to be combined with Fuse, the metal complex or salt of the aromatic carboxylic acid would still be required in the combination, and would not be required for the present claimed invention. Hence the combination of Itoh and Fuse would teach away from amended claim 23 of the present invention.

Hence, it is respectfully submitted that claim 23, which recites an embodiment of amended claim 1, does not require a metal complex or salt of the aromatic carboxylic acid represented by the general formula (I): ArCOOH (I), and is thus not taught or suggested under 35 U.S.C. §103(a) by Fuse and/or Itoh, alone or in combination.

Thus, claim 23 is submitted to be patentable under 35 U.S.C. §103(a) over Fuse and/or Itoh, alone or in combination.

C. In the Office Action, at pages 5-6, numbered paragraph 10, claims 3, 6 and 24 were rejected under 35 U.S.C. §103(a) as being unpatentable over Fuse et al. (USPN 5,045,421; hereafter, Fuse) in view of Mott et al. (USPN 6,066,426; hereafter, Mott). The reasons for the rejection are set forth in the Office Action and therefore not repeated. The rejection is traversed and reconsideration is requested.

Independent claim 1 has been amended to include the features of claim 2. Claim 2 has been cancelled without prejudice or disclaimer.

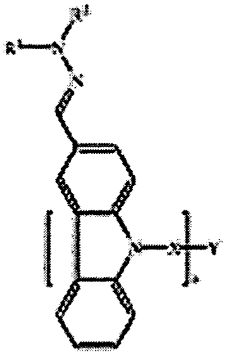
Claim 24 has also been amended to include the features of claim 2.

As noted above, Fuse requires 3 components in the charge transport layer: the specific compound, a charge transport material and a binder resin, wherein the specific compound used in the charge transport layer is the metal complex or salt of the aromatic carboxylic acid represented by the general formula (I): ArCOOH (I), wherein Ar is the residue of the aromatic homocyclic (or carbon cyclic) compound such as benzene, naphthalene or anthracene or the residue of the aromatic heterocyclic compound such as carbazole. Ar has optionally one or more substituents such as alkyl, aryl, hydroxy, alkoxy, aryloxy, alkylcarbonyl, arylcarbonyl, alkoxycarbonyl, aryloxycarbonyl, carboxyl, nitro, cyano, halogen, among which hydroxy is preferable.

Amended claims 1 and 24 of the present invention do not recite the metal complex or salt of the aromatic carboxylic acid of Fuse. Hence Fuse teaches away from amended claims 1 and 24 of the present invention.

Thus, amended claims 1 and 24 of the present invention are submitted to be patentable under 35 U.S.C. §103(a) over Fuse et al. (USPN 5,045,421). Since claims 3 and 6 depend from amended claim 1, claims 3 and 6 are submitted to be patentable under 35 U.S.C. §103(a) over Fuse et al. (USPN 5,045,421) for at least the reasons that amended claim 1 is submitted to be patentable under 35 U.S.C. §103(a) over Fuse et al. (USPN 5,045,421).

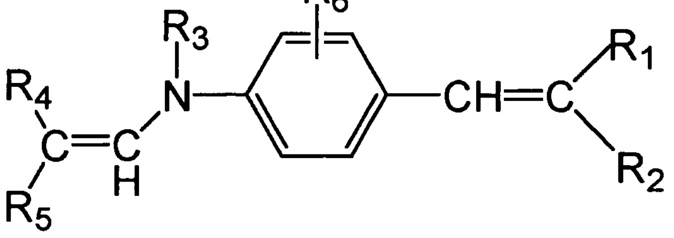
Mott recites an organic photoreceptor comprising: a) a charge transport compound having the formula:



where n is an integer between 2 and 6, inclusive; R_1 and R_2, independently, are an alkyl group, a cycloalkyl group, or an aryl group, or R_1 and R_2 combine with the nitrogen atom to form a ring; Y is a bond, a carbon atom, a --CR_3 group, an aryl group, a cycloalkyl group, or a cyclosiloxyl group; R_3 is hydrogen, an alkyl group, or an aryl group; and X is a linking group having the formula --$(CH_2)_m$ -- where m is an integer between 4 and 10, inclusive, and one or more of the methylene groups is optionally replaced by an oxygen atom, a carbonyl group, or an ester, wherein N is 2, 3, or 4 group; (b) a charge generating compound; and (c) an electroconductive substrate.

Mott does not recite a double-layered positively-charged organic photoreceptor comprising: an electroconductive support; a charge transport layer formed on the electroconductive support, comprising: a first charge transport compound that is soluble in an acetate solvent; a second charge transport compound that is insoluble in an acetate solvent; and a binder resin; and a charge generating layer formed on the charge transport layer, wherein the first charge transport compound is at least one selected from charge transport compounds of formula (1) below:

formula (1):



where R1 and R2 are independently selected from the group consisting of a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted aryl group, and a substituted or unsubstituted styryl, in which at least one of R1 and R2 is a substituted or unsubstituted aryl group or a substituted or unsubstituted styryl; R3 is selected from the group consisting of a substituted or unsubstituted alkyl group, a substituted or unsubstituted aralkyl, and a substituted or unsubstituted aryl group; R4 and R5 are independently selected from the group consisting of a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted benzyl group, and a substituted or unsubstituted phenyl group; and R6 is selected from the group consisting of a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted alkoxy group, and a halogen atom, which are recited in claims 1 and 24 of the present invention.

Thus, amended claims 1 and 24 of the present invention are submitted to be patentable under 35 U.S.C. §103(a) over Mott et al. (USPN 6,066,426). Since claims 3 and 6 depend from amended claim 1, claims 3 and 6 are submitted to be patentable under 35 U.S.C. §103(a) over Mott et al. (USPN 6,066,426) for at least the reasons that amended claim 1 is submitted to be patentable under 35 U.S.C. §103(a) over Mott et al. (USPN 6,066,426).

It is respectfully submitted that there is no teaching or suggestion of combining Fuse and Mott. Even if combined, Fuse and Mott would not recite the present claimed invention of amended claims 1 and 24 under 35 U.S.C. §103(a) and would, in fact teach away from amended claims 1 and 24. Thus, claims 1, 3, 6, and 24 are submitted to be patentable under 35 U.S.C. §103(a) over Fuse and/or Mott, alone or in combination.

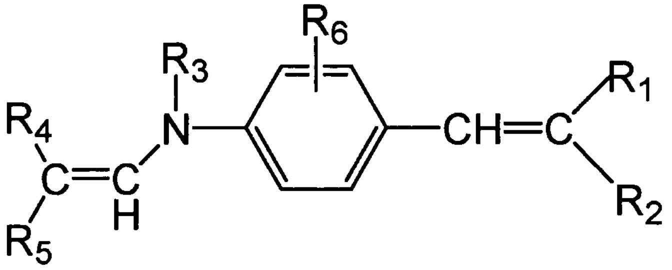
D. In the Office Action, at pages 6-7, numbered paragraph 11, claims 20 and 22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Swanke (USPN 3,619,050; hereafter, Swanke) in view of Fuse et al. (USPN 5,045,421; hereafter, Fuse). The reasons for the rejection are set forth in the Office Action and therefore not repeated. The rejection is traversed and reconsideration is requested.

Claims 20 and 22 have been amended to recite the features of claim 2, which has been cancelled without prejudice or disclaimer.

As noted above, it is respectfully submitted that Fuse requires 3 components in the charge transport layer: the specific compound, a charge transport material and a binder resin, wherein the specific compound used in the charge transport layer is the metal complex or salt of the aromatic carboxylic acid represented by the general formula (I): ArCOOH (I), wherein Ar is the residue of the aromatic homocyclic (or carbon cyclic) compound such as benzene, naphthalene or anthracene or the residue of the aromatic heterocyclic compound such as carbazole. Ar has optionally one or more substituents such as alkyl, aryl, hydroxy, alkoxy, aryloxy, alkylcarbonyl, arylcarbonyl, alkoxycarbonyl, aryloxycarbonyl, carboxyl, nitro, cyano, halogen, among which hydroxy is preferable.

In contrast, amended claims 20 and 22 recite that the first charge transport compound is at least one selected from charge transport compounds of formula (1) below:

formula (1):



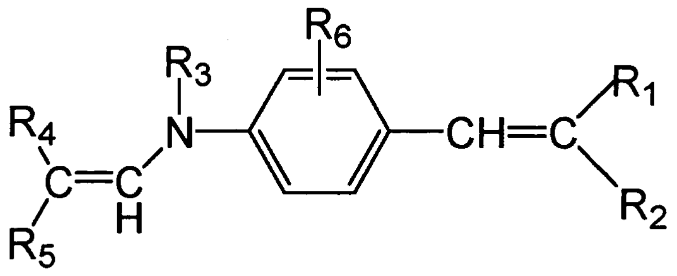
where R1 and R2 are independently selected from the group consisting of a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted aryl group, and a substituted or unsubstituted styryl, in which at least one of R1 and R2 is a substituted or unsubstituted aryl group or a substituted or unsubstituted styryl; R3 is selected from the group consisting of a substituted or unsubstituted alkyl group, a substituted or unsubstituted aralkyl, and a substituted or unsubstituted aryl group; R4 and R5 are independently selected from the group consisting of a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted benzyl group, and a substituted or unsubstituted phenyl group; and R6 is selected from the group consisting of a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted alkoxy group, and a halogen atom.

Hence, amended claims 20 and 22 do not require the metal complex or salt of the aromatic carboxylic acid represented by the general formula (I): ArCOOH (I) that is required by Fuse.

Thus, amended claims 20 and 22 of the present invention are submitted to be patentable under 35 U.S.C. §103(a) over Fuse et al. (USPN 5,045,421).

As admitted by the Examiner, Swanke is silent as to the composition of the electrophotosensitive member. Swanke does not recite the that the first charge transport compound is at least one selected from charge transport compounds of formula (1) below:

formula (1):



where R1 and R2 are independently selected from the group consisting of a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted aryl group, and a substituted or unsubstituted styryl, in which at least one of R1 and R2 is a substituted or unsubstituted aryl group or a substituted or unsubstituted styryl; R3 is selected from the group consisting of a substituted or unsubstituted alkyl group, a substituted or unsubstituted aralkyl, and a substituted or unsubstituted aryl group; R4 and R5 are independently selected from the group consisting of a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted benzyl group, and a substituted or unsubstituted phenyl group; and R6 is selected from the group consisting of a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted alkoxy group, and a halogen atom, as is recited by amended claims 20 and 22 of the present invention.

Since Fuse requires the metal complex or salt of the aromatic carboxylic acid represented by the general formula (I): ArCOOH (I), even if Fuse were to be combined with Swanke, the combination would not recite amended claims 20 and 22 of the present invention.

Even if Swanke and Fuse were combined, the requirement that Fuse include a metal complex or salt of the aromatic carboxylic acid represented by the general formula (I): ArCOOH (I), wherein Ar is the residue of the aromatic homocyclic (or carbon cyclic) compound such as benzene, naphthalene or anthracene or the residue of the aromatic heterocyclic compound such as carbazole, the combination would not recite amended claims 20 and 22 of the present invention and would, in fact, teach away from the present invention.

Thus, amended claims 20 and 22 are submitted to be patentable under 35 U.S.C. §103(a) over Swanke (USPN 3,619,050) in view of Fuse et al. (USPN 5,045,421).

DOUBLE PATENTING:

In the Office Action, at pages 7-8, numbered paragraph 13, claims 1-3 and 6 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 of copending Application no. 10/674,786. The reasons for the rejection are set forth in the Office Action and therefore not repeated. The rejection is traversed and reconsideration is requested.

It is respectfully submitted that it is premature to raise a double patenting issue since the conflicting claims have not in fact been patented. Thus, the claims in the co-pending application are subject to change, and may not necessarily, in their final form, raise the issue of double patenting. Hence, Applicants respectfully suggest it is premature to reject the claims of the present application on the basis of double patenting.

As such, it is respectfully requested that the applicant be allowed to address any double patenting issues remaining once the rejection of the claims under 35 U.S.C. §102(b) and §103(a) are resolved and that the rejection be reconsidered in light of the amendments and claims presented above.

IDS FILED JULY 26, 2005:

Applicants respectfully request consideration of the Information Disclosure Statement filed July 26, 2005.

CONCLUSION:

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot, and further, that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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